CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM STATEMENT OF INVESTMENT POLICY

FOR

SUPPLEMENTAL INCOME PLANS Calpers RISK-BASED AND TARGET RETIREMENT DATE FUNDS

June 16, 2008

This Policy is effective upon adoption and supersedes all previous Supplemental Income Plans CalPERS Risk-Based and Target Retirement Date Funds policies.

I. PURPOSE

The CalPERS Statement of Investment Policy for Supplemental Income Plans sets out the policy and guidelines applicable to the Supplemental Income Plans.

This document sets forth the investment policy ("Policy") for the CalPERS Supplemental Income Plans ("SIP") Risk-Based Asset Allocation Funds and Target Retirement Date Asset Allocation Funds, Asset Allocation Funds Strategy ("Program"). The design of this policy ensures that investors, managers, consultants, and other participants selected by the California Public Employees' Retirement System ("CalPERS") take prudent and careful action while managing the Program. Additionally, use of this policy assures sufficient flexibility in managing investment risks and returns associated with this Program.

The Program furthers these goals by establishing asset class allocation targets and ranges, and managing asset class allocations within their policy ranges. For the <u>Target Retirement Date Funds</u> the asset class allocations are designed to change over time according to a pre-determined <u>glidepath</u>.

II. STRATEGIC OBJECTIVE

The investment options offered in the CalPERS SIP Risk-Based Asset Allocation and Target Retirement Date Asset Allocation funds will be broadly diversified to minimize the effect of short-term losses within any mix of investments self-directed by participants. The objective of these funds, in combination with defined benefit pension income and possibly social security, is to help participants achieve retirement adequacy. The Program shall further these objectives by seeking to accomplish the following:

A. Recommend asset allocation policies with targets and ranges based on a periodic assessment of estimated participant information such as: retirement objectives, demographics, other retirement assets and risk tolerances.

- B. Offer asset allocation funds that achieve the highest rate of total return reasonably possible within prudent levels of <u>risk</u> and <u>liquidity</u>;
- C. Maintain sufficient diversification to avoid large losses and preserve capital; and,
- D. Ensure that the asset class policy ranges approved by the Committee are adhered to, and that any <u>rebalancing</u> is performed efficiently and prudently.

III. RESPONSIBILITIES

- A. In addition to the Committee's responsibilities outlined in the SIP Statement of Investment Policy, the Committee is also responsible for approving asset classes in the Program for investment and approving a policy target allocation, permissible range, and <u>benchmark</u> for each asset class.
- B. CalPERS' Investment Staff ("Staff") is responsible for the following:
 - 1. All aspects of portfolio management including monitoring, analyzing, and evaluating performance relative to the appropriate benchmark.
 - 2. Managing CalPERS <u>asset class allocations</u> for the Program within policy ranges approved by the Committee, in accordance with Policy guidelines.
 - 3. Reporting to the Committee annually and more frequently if needed about Program allocations, returns, risks, and activity.
 - 4. Monitoring the implementation of, and compliance with, the Policy. Staff shall report concerns, problems, material changes, and all violations of Policies at the next Committee meeting, or sooner if deemed necessary. These reports shall include explanations of the violations and appropriate recommendations for corrective action.
 - 5. Providing recommendations to the Committee concerning the identification of asset classes and selection of asset class benchmarks, policy targets and ranges.
- C. The <u>General Pension Consultant</u> ("Consultant") is responsible for:

Monitoring, evaluating, and reporting periodically, to the Committee, on the performance of the Program relative to the appropriate benchmark and Policy.

- D. Internal and External Manager(s) ("Manager(s)") are responsible for all aspects of portfolio management as set forth in their respective investment management contracts, guidelines or policies and shall fulfill the following duties:
 - 1. Communicate with staff as needed regarding investment strategy and investment results.
 - 2. Manage to the objectives of each fund.
 - 3. Monitor, analyze, and evaluate performance relative to the agreed upon benchmark.
 - 4. Cooperate fully with Staff, SIP's custodian, the Third Party Administrator and the consultant concerning requests for information.

IV. PERFORMANCE OBJECTIVE AND BENCHMARK

The benchmark for each asset allocation fund is a weighted benchmark determined by weighting each asset class benchmark by its policy target. The policy target weights for all participant ages are listed in Attachment A.

The objective is for the funds to outperform the appropriate benchmark and perform above the universe median.

V. INVESTMENT APPROACHES AND PARAMETERS

A. The Program asset classes and policy benchmarks are shown below.

Asset Class Benchmark

Global Equity Custom Global Equity Index (1)
U.S. Fixed Income Custom Fixed Income Index (1)
TIPs Lehman Brothers TIPs Index

Commodities Goldman Sachs Commodities Index

REITS Custom REITS Index (1)

(1) The benchmark for each of these asset classes is a weighted benchmark determined by weighting each component fund within the asset class by its target weight.

B. Asset Class Policy Targets and Ranges

1. The policy asset class targets and permissible ranges for the Risk-Based Funds are shown below.

	Global Equity		US Fixed Income		TIPs		Commodities		REITs		Expected	Expected
Fund	Target	Range	Target	Range	Target	Range	Target	Range	Target	Range	Return	Risk
Aggressive	85.0%	+/- 4%	5.0%	+/- 1%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.8%	14.5%
Moderate	60.0%	+/- 5%	28.0%	+/- 3%	5.0%	+/- 2%	4.0%	+/- 1%	3.0%	+/- 1%	7.7%	10.4%
Conservative	30.0%	+/- 5%	53.0%	+/- 5%	15.0%	+/- 2%	2.0%	+/- 1%	0.0%	+/- 0%	6.2%	5.4%

2. The policy asset class targets and permissible ranges for the Target Retirement Date Funds are shown in the glidepath below. Funds will be created by combining age groups and will be named based on the expected retirement date. Participants will self select funds either based on their age/retirement date or based on their individual asset allocation preference.

Detailed Glidepath
Asset Class Targets and Ranges by Participant Age

	Global Equity		US Fixed	US Fixed Income		TIPs		Commodities		REITs		Expected
Age	Target	Range	Target	Range	Target	Range	Target	Range	Target	Range	Return	Risk
25 & less	85.0%	+/- 4%	5.0%	+/- 1%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.8%	14.5%
26	85.0%	+/- 4%	5.0%	+/- 1%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.8%	14.5%
27	85.0%	+/- 4%	5.0%	+/- 1%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.8%	14.5%
28	85.0%	+/- 4%	5.0%	+/- 1%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.8%	14.5%
29	85.0%	+/- 4%	5.0%	+/- 1%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.8%	14.5%
30	85.0%	+/- 4%	5.0%	+/- 1%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.8%	14.5%
31	85.0%	+/- 4%	5.0%	+/- 1%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.8%	14.5%
32	85.0%	+/- 4%	5.0%	+/- 1%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.8%	14.5%
33	85.0%	+/- 4%	5.0%	+/- 1%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.8%	14.5%
34	85.0%	+/- 4%	5.0%	+/- 1%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.8%	14.5%
35	85.0%	+/- 4%	5.0%	+/- 1%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.8%	14.5%
36	85.0%	+/- 4%	5.0%	+/- 1%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.8%	14.5%
37	85.0%	+/- 4%	5.0%	+/- 1%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.8%	14.5%
38	85.0%	+/- 4%	5.0%	+/- 1%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.8%	14.5%
39	85.0%	+/- 4%	5.0%	+/- 1%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.8%	14.5%
40	85.0%	+/- 4%	5.0%	+/- 1%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.8%	14.5%
41	84.0%	+/- 5%	6.0%	+/- 2%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.7%	14.3%
42	83.0%	+/- 5%	7.0%	+/- 2%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.7%	14.1%
43	82.0%	+/- 5%	8.0%	+/- 2%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.6%	13.9%
44	81.0%	+/- 5%	9.0%	+/- 2%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.6%	13.7%
45	79.0%	+/- 5%	11.0%	+/- 2%	0.0%	+/- 0%	5.0%	+/- 2%	5.0%	+/- 1%	8.5%	13.4%
46	77.0%	+/- 5%	13.0%	+/- 2%	0.0%	+/- 1%	5.0%	+/- 2%	5.0%	+/- 1%	8.5%	13.2%
47	75.0%	+/- 5%	15.0%	+/- 2%	0.0%	+/- 1%	5.0%	+/- 2%	5.0%	+/- 1%	8.4%	13.0%
48	74.0%	+/- 5%	16.0%	+/- 2%	0.0%	+/- 1%	5.0%	+/- 2%	5.0%	+/- 1%	8.3%	12.8%
49	72.0%	+/- 5%	17.0%	+/- 2%	1.0%	+/- 1%	5.0%	+/- 2%	5.0%	+/- 1%	8.2%	12.6%
50	71.0%	+/- 5%	19.0%	+/- 2%	1.0%	+/- 1%	5.0%	+/- 2%	4.0%	+/- 1%	8.1%	12.3%
51	70.0%	+/- 5%	20.0%	+/- 2%	1.0%	+/- 1%	5.0%	+/- 2%	4.0%	+/- 1%	8.1%	12.0%
52	68.0%	+/- 5%	22.0%	+/- 2%	1.0%	+/- 1%	5.0%	+/- 2%	4.0%	+/- 1%	8.0%	11.8%
53	66.0%	+/- 5%	23.0%	+/- 2%	2.0%	+/- 1%	5.0%	+/- 2%	4.0%	+/- 1%	7.9%	11.6%
54	64.0%	+/- 5%	24.0%	+/- 2%	3.0%	+/- 1%	5.0%	+/- 2%	4.0%	+/- 1%	7.9%	11.4%
55	63.0%	+/- 5%	26.0%	+/- 2%	3.0%	+/- 1%	4.0%	+/- 1%	4.0%	+/- 1%	7.8%	11.1%
56	61.0%	+/- 5%	28.0%	+/- 3%	4.0%	+/- 2%	4.0%	+/- 1%	3.0%	+/- 1%	7.8%	10.7%
57	59.0%	+/- 5%	29.0%	+/- 3%	5.0%	+/- 2%	4.0%	+/- 1%	3.0%	+/- 1%	7.7%	10.3%
58	57.0%	+/- 5%	30.0%	+/- 3%	6.0%	+/- 2%	4.0%	+/- 1%	3.0%	+/- 1%	7.6%	9.9%
59	55.0%	+/- 5%	31.0%	+/- 3%	7.0%	+/- 2%	4.0%	+/- 1%	3.0%	+/- 1%	7.5%	9.5%
60	54.0%	+/- 5%	32.0%	+/- 3%	8.0%	+/- 2%	3.0%	+/- 1%	3.0%	+/- 1%	7.4%	9.3%
61	53.0%	+/- 5%	32.0%	+/- 4%	9.0%	+/- 2%	3.0%	+/- 1%	3.0%	+/- 1%	7.4%	9.1%
62	52.0%	+/- 5%	32.0%	+/- 4%	10.0%	+/- 2%	3.0%	+/- 1%	3.0%	+/- 1%	7.3%	8.8%
63	50.0%	+/- 5%	33.0%	+/- 4%	11.0%	+/- 2%	3.0%	+/- 1%	3.0%	+/- 1%	7.2%	8.5%
64	48.0%	+/- 5%	34.0%	+/- 4%	12.0%	+/- 2%	3.0%	+/- 1%	3.0%	+/- 1%	7.1%	8.3%
65	47.0%	+/- 5%	35.0%	+/- 4%	13.0%	+/- 2%	2.0%	+/- 1%	3.0%	+/- 1%	7.0%	8.1%
66	46.0%	+/- 5%	36.0%	+/- 5%	14.0%	+/- 2%	2.0%	+/- 1%	2.0%	+/- 1%	7.0%	7.9%
67	45.0%	+/- 5%	36.0%	+/- 5%	15.0%	+/- 2%	2.0%	+/- 1%	2.0%	+/- 1%	6.9%	7.7%
68 69	44.0%	+/- 5%	37.0%	+/- 5%	15.0%	+/- 2%	2.0%	+/- 1%	2.0%	+/- 1% +/- 1%	6.9%	7.5%
	43.0%	+/- 5%	37.0%	+/- 5%	16.0%	+/- 2%	2.0%	+/- 1%	2.0%		6.8%	7.4%
70	42.0%	+/- 5%	38.0%	+/- 5%	16.0%	+/- 2%	2.0%	+/- 1%	2.0%	+/- 1%	6.8%	7.3%
71 72	40.0%	+/- 5%	40.0%	+/- 5%	16.0%	+/- 2%	2.0%	+/- 1% +/- 1%	2.0%	+/- 1% +/- 0%	6.7%	7.0%
72	39.0% 37.0%	+/- 5% +/- 5%	43.0% 45.0%	+/- 5% +/- 5%	16.0% 16.0%	+/- 2% +/- 2%	2.0% 2.0%	+/- 1% +/- 1%	0.0% 0.0%	+/- 0% +/- 0%	6.7% 6.6%	6.8% 6.6%
74	35.0%	+/- 5%	47.0%	+/- 5%	16.0%	+/- 2%	2.0%	+/- 1%	0.0%	+/- 0%	6.6%	6.4%
75	33.0%	+/- 5%	49.0%	+/- 5%	16.0%	+/- 2%	2.0%	+/- 1%	0.0%	+/- 0%	6.5%	6.2%
76	31.0%	+/- 5%	51.0%	+/- 5%	16.0%	+/- 2%	2.0%	+/- 1%	0.0%	+/- 0%	6.4%	6.0%
77	30.0%	+/- 5%	52.0%	+/- 5%	16.0%	+/- 2%	2.0%	+/- 1%	0.0%	+/- 0%	6.3%	5.7%
78	30.0%	+/- 5% +/- 5%	53.0%	+/- 5%	15.0%	+/- 2%	2.0%	+/- 1%	0.0%	+/- 0%	6.3%	5.7%
79	30.0%	+/- 5%	53.0%	+/- 5%	15.0%	+/- 2%	2.0%	+/- 1%	0.0%	+/- 0%	6.2%	5.4%
80 +	30.0%	+/- 5%	53.0%	+/- 5%	15.0%	+/- 2%	2.0%	+/- 1%	0.0%	+/- 0%	6.2%	5.4%
00 T	30.070	T/- J /0	JJ.U /0	T/- J /0	13.070	T/- Z /0	2.0 /0	T/- I /0	0.070	T/- U /0	0.270	J. 4 /0

C. Asset Allocation Fund Design Process

- 1. A comprehensive design analysis shall be completed for each asset allocation fund at least once every three years and will be presented to the Committee for review and approval of policy asset allocation targets and ranges. The Chief Investment Officer ("CIO") may recommend a more frequent analysis of asset allocation targets and ranges if expected returns, risks or estimated participant characteristics have substantially changed since the prior analysis. Additionally, the Program shall be reviewed by Staff at least annually to ensure that all assumptions used in establishing the Program continue to be reasonable. The CIO may also recommend to the Committee changes in the policy targets and ranges. A target for cash is exempt from consideration.
- 2. The Program analyses shall also encompass the expected long-term capital markets outlook and expected inflation.
 - a. Analyses shall identify suitable asset classes in accordance with Section V.D., and consider asset class expected returns, volatilities, and correlations.
 - Analyses shall determine a suitable glidepath for the Target Date Retirement Funds taking into consideration the estimated participant characteristics.
 - c. Analyses of alternative asset allocation strategies shall measure the estimated effect on expected risk and return, diversification, and likelihood of meeting participant retirement objectives.
 - d. The Committee shall approve policy asset allocation targets and ranges expressed as a percentage of total assets. The Committee shall set policy ranges sufficiently wide to permit efficient and flexible implementation, yet sufficiently narrow to maintain the basic risk and return relationship established by the allocation targets.

D. Asset Class Criteria

A financial or real asset type shall be considered as an asset class if it has a risk, return, and correlation profile sufficiently different from existing CalPERS asset classes, and if its inclusion or exclusion materially affects the expected risk and return of the Program.

- 1. Criteria for consideration when evaluating an asset class shall include the following:
 - a. Sufficient size, liquidity, and cost efficiency to permit CalPERS SIP to invest meaningful amounts in that asset class, and have a material effect on CalPERS' SIP return.
 - b. Availability of sufficient internal or external investment and technical expertise to ensure prudent implementation of an investment in that asset class.
 - c. Presence of <u>diversification</u>, return enhancement, liquidity provision, or some other readily identifiable attribute sufficiently different from other asset classes and which enhances CalPERS' SIP ability to achieve the strategic objectives outlined in Section II.
 - d. Acceptance by other large pension plan sponsors as a feasible and meaningful asset class, or in the absence of such acceptance, academic support for its inclusion.
 - e. Availability of sufficient data, history, or expertise to assess the feasibility and benefit of the asset class to CalPERS SIP, by means of a measurable investment outcome. Further, the asset class must have a basis for developing expected investment returns, risks, and correlations for the purposes of the financial study.
- 2. The Committee may approve an asset class for investment provided it meets the above criteria.
- Once CalPERS approves an asset class for investment, as part of the Program, the investment may only be made in accordance with a policy reviewed and approved by the Committee for that asset class. Such a policy shall specify the investment guidelines and provide for the monitoring of that asset class.

VI. INVESTMENT APPROACHES AND PARAMETERS - IMPLEMENTATION

A. Philosophy and Approach

The funds shall be managed in accordance with the approved Policy or Policies governing each asset class. Such policies shall specify the method and parameters for implementation and provide for the ongoing monitoring of that asset class.

B. Funds Structure/Parameters

Staff shall manage each fund in accordance with the approved strategic asset allocation. In order to increase the investment opportunities, selected internally managed funds shall be made available for investment in the form of pooled funds. CalPERS Custodian shall employ a <u>unitized fund structure</u> to maintain separate and distinct historical records and to produce individual <u>net asset values</u> ("NAV's").

C. Rebalancing

Asset class allocations shall be managed to be within policy ranges. Allocations may temporarily exceed policy ranges due to extreme market volatility or due to changing allocations established for a particular fund. In this case, the asset allocation will be returned to within its policy range in a timely manner, with the exact time period dependent upon transaction costs and liquidity.

D. Restrictions. Prohibitions and Authorized Securities

Restrictions, Prohibitions and Authorized Securities of the Fund are defined in the Policy governing each asset class.

VII. CALCULATIONS AND COMPUTATIONS

Investors, managers, consultants, and other participants selected by CalPERS SIP shall make all calculations and computations on a market value basis as recorded by CalPERS' SIP Custodian.

VIII. GLOSSARY OF TERMS

Key words used in the policy are defined in CalPERS' Master Glossary of Terms.

Approved by the Policy Subcommittee: June 16, 2008

Asset Class Glossary: Asset Allocation Policy: Supplemental Income Plans CalPERS Risk-Based and Target Retirement Date Funds June 16, 2008

Asset Class Allocation

The net long market value of all non-derivative securities plus the net long futuresequivalent notional value of all derivatives.

Benchmark

A set of securities with associated weights that provides a passive representation of a market segment. A benchmark's return is often used as a comparative measure of a manager's performance results in an active portfolio.

Chief Investment Officer

Heads the CalPERS Investment Office and works with the Investment Committee to develop a long-term investment policy and asset allocation strategy for the Public Employees' Retirement Fund.

Diversification

Investing in multiple assets to avoid or reduce the exposure to any one source of risk.

General Pension Consultant

An individual or organization that provides specialized professional assistance to the Investment Committee in determining the pension fund's asset allocation model or optimal combination of investments in order to maximize risk-adjusted investment returns in a manner consistent with the State's long-term pension liabilities.

Glidepath

The pre-determined asset mix and asset allocation for a series of Target Date Retirement Funds. The glidepath automatically adjusts the asset allocation each year to achieve the appropriate risk and return for each stage of a participant's life.

Liquidity

The ability to quickly convert a particular investment into cash at a low transaction cost.

Net Asset Value – NAV

The Net Asset Value or NAV is a term used to describe the value of an entity's assets less the value of its liabilities.

Participant **Participant**

A person that takes part in, or contributes to, one of the CalPERS Supplemental Income Plans.

Pooled Funds

Funds from many individual investors that are aggregated for the purposes of investment, as in the case of a mutual or pension fund. Investors in pooled fund investments benefit from economies of scale, which allow for lower trading costs per dollar of investment, diversification and professional money management.

Rebalancing

The movement of portfolio asset class exposures closer to policy target weightings, generally resulting in a reduction in active (benchmark-relative) risk.

Return

A measure of the total performance of an investment over a designated time period. The return calculation for private equity is typically based on the internal rate of return, net of all fees and expenses.

Risk

A measurable probability of losing or not gaining value. Risk is differentiated from uncertainty, which is not measurable. Risk in this context is also referred to as "standard deviation", which is a statistical measure of the degree to which an individual value in a probability distribution tends to vary from the mean of the distribution.

Target Retirement Date Funds

A series of diversified funds each of which has a pre-determined asset mix and allocation that will vary over time until and often into retirement. This dynamic asset allocation, or glidepath, is designed to reduce the level of risk as the participant approaches retirement. The "target date" refers to the date the participant reaches retirement age.

Unitized Fund Structure

Unitized Fund Structure allows multiple participants to contribute to a pool of assets while maintaining historical records and producing individual Net Asset Values (NAVs) for each participant. Each participant's share in the portfolio is separately accounted for using a system that accounts for each class of shares' proportional entitlement to the portfolio's Total Net Assets. The system maintains all of the funds' holdings at the fund level, and maintains the fund prices at the class level.

Volatility

Expected or historical annualized standard deviation of returns. Returns can be total returns or the differential returns between a portfolio and its benchmark.